

Appl. No. 10/049,285
Amdt. dated February 11, 2004
Response to Office Action of December 1, 2003

REMARKS

After this amendment, claims 9 -23 remain pending in this application.

By this amendment, we have amended claim 9 to more specifically recite the structure of the bellows relative to the piezoelectric actuator 2.

In response to the Office action dated December 1, 2003, please note that Fig. 2 was corrected on April 17, 2002. A copy of the corrected drawing filed in the U.S. Patent and Trademark Office on April 17, 2002 is enclosed. This should satisfy the examiner's requirement as stated in paragraph 1 of the Office action regarding Fig. 2.

In response to the examiner's rejection of claims 9, 10, 13, 14 and 17 under 35 USC 102(b) in paragraph 3 of the Office action, applicant respectfully disagrees with the examiner's assertion that the German Patent No. DE 19744235 A1 (Gurich et al., hereinafter Gurich) anticipates these claims. Contrary to the examiner's position that element 21 in Fig. 2 of Gurich is the claimed actuator bore, the German disclosure identifies element 21 as the leakage area and it is not the claimed actuator bore recited in claim 9. Therefore, even if the examiner is correct in alleging that bellows 18 is solidly attached to the actuator 17 in Fig. 2 of Gurich, the bellows 18 is not attached to the bore of the actuator. Rather, the upper part of bellows 18 is attached to a clamping piece 26. Therefore, the upper part of the bellows 18, even if element 26 is considered to be a sleeve-like extension of the actuator, is not solidly connected to the bore of the piezoelectric actuator, as recited in the claims. Note also that we have amended claim 9 to further clarify that bellows 5 (Fig. 1 of the applicant's disclosure) is attached to the head of the actuator 2.

Since an anticipation rejection requires that each and every element of the claim must be shown by a single reference, and since Gurich does not show each and every element of claim 9 as pointed out above, we submit that the rejection of claims 9, 10, 13, 14, and 17 under 35 USC 102(b) is misplaced and should be withdrawn.

In response to the rejection of claims 9 and 10 under 35 USC 103(a) over U.S. Patent No. 4,858,439 (Sawada et al., hereinafter Sawada) and Gurich, we disagree with the examiner's proposition that Sawada can be modified by using the teachings of Gurich to make obvious the structure recited in claim 9. The examiner asserts that a sleevelike extension 11a (Fig. 5) of Sawada can be modified in such a way that the bellows 11 can be connected to the actuator bore as taught by Gurich. The applicant submits that such a modification of Sawada would destroy the purpose for which bellows 11 is provided in Sawada. Specifically, the bellows is provided to keep the fluid enclosed in the chamber enclosed by bellows 11 from leaking out to the outside of the element 18 in Fig. 5. So, if the end of 11a of bellows 11 in Sawada is attached to the bore of the actuator, the fluid would leak out of element 18 in Sawada. This would be impermissible even if we agree with the examiner that there is a teaching in either Sawada or Gurich, or in the combination that such a modification would be desirable. In actuality, as we have pointed out above, the bellows in Gurich is not attached to the actuator bore, contrary to what the examiner has alleged in paragraph 3 of the Office action. Therefore, the obviousness rejection of claims 9 and 10 over Sawada and Gurich should be withdrawn.

In response to the obviousness rejection of claims 18 and 19 over Gurich in view of U.S. Patent No. 3,651,657 (Bottum), in paragraph 6 of the Office action, the applicant notes that the teaching of Bottum that the bellows can be made out of

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metal is used to reject claims 18 and 19. However, Bottum does not add anything to the structure disclosed by Gurich to make the limitations of claim 9, which is the basis of claims 18 and 19. Therefore, the deficiency noted above in the Gurich disclosure regarding the structure in claim 9, and hence claims 18 and 19, is not cured by the teachings of Bottum. Therefore, we submit that the obviousness rejection of claims 18 and 19 over Gurich and Bottum should also be withdrawn.

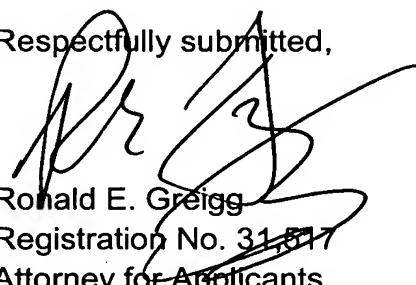
The applicant notes with appreciation the indication of allowable matter in claims 11, 12, 15, 16, 20 and 23 as indicated in paragraph 7 of the Office action. Furthermore, the applicant believes that the rejection given by the examiner under 35 USC 102b and 35 USC 103a are not supported by the disclosures and the teachings of the references applied. Consequently, the allowance of claims 9-23 is respectfully solicited.

Also attached is a copy of the PTO-1449 listing the German Patent No. DE 197 44 235 A1 (Gurich). This reference has been used by the examiner in rejecting the claims of this application. This reference was cited in the PCT report as an "X" reference. Therefore, the examiner is requested to list this reference as part of the prior art on the face of the patent to be issued.

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The Commissioner is hereby authorized to charge any and all fees associated with this communication to Deposit Account No. 07-2100.

Respectfully submitted,


Ronald E. Greigg
Registration No. 31,577
Attorney for Applicants
Customer No. 02119

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GREIGG & GREIGG, P.L.L.C.
1423 Powhatan Street, Suite One
Alexandria, Virginia 22314
Telephone: (703) 838-5500
Facsimile: (703) 838-5554

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